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PATENT APPLICATION
ATTORNEY DOCKET NO. 1182a

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: 09/784,793

Examiner: Richard C. Weisberger

Filing Date: 2/15/2001

Group Art Unit: 3624

Title: **CONSOLIDATED BILLING SYSTEM AND METHOD FOR USE IN
TELEPHONY NETWORKS**

MAILSTOP: PATENT APPEAL
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BRIEF ON APPEAL

INTRODUCTION

Pursuant to the provisions of 37 CFR § 1.191 *et seq.*, applicants hereby appeal to the Board of Patent Appeals and Interferences (the "Board") from the examiner's final rejection dated 4/28/2005. A notice of appeal was sent on the same day as this appeal brief. This brief on appeal is being filed in triplicate (37 CFR § 1.192(a)) and is accompanied by the requisite fee (37 CFR 1.192(a) and 1.17(f)).

REAL PARTY IN INTEREST

The entire interest in the present application has been assigned to Sprint Communications Company, L. P. as recorded for the parent (09/154,962) at Reel 9625, Frame 0836.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1 – 16 are pending.

Claims 1 – 16 have been finally rejected.

Claims 1 – 16 are on appeal.

STATUS OF AMENDMENTS

There are no pending amendments.

SUMMARY OF INVENTION

This invention relates to a billing system that operates in a communication network. The billing system accounts for usage of standard network services, for example voice and data communications, and for third party services, such as paging and voice mail, that are supported by the communication network but are provided to the communication network by the third party. Customer usage of network equipment and third-party equipment is also accounted for by the billing system of the current invention (page 2 lines 22 – 31). The network and third party usage charges and the network and third party equipment charges for a customer are integrated into a single invoice for the customer by the billing system (page 3 lines 1 – 4). Once all the charges have been calculated, a single invoice is generated. An image of the single invoice is generated and used to produce a copy of the invoice in the media format selected by the customer

(See page 9 lines 20 – 25). Receiving a single invoice, instead of multiple invoices, is a benefit to the customer of the communications network.

ISSUES

1. Whether claims 1 – 8 are directed to non-statutory subject matter under 35 U.S.C 101.
2. Whether claim 9 is directed to non-statutory subject matter under 35 U.S.C 101.
3. Whether claims 1 – 15 are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention under 35 U.S.C 112, second paragraph.

GROUPING OF CLAIMS

For the purpose of this appeal claims 1 – 8 stand or fall together and claims 9 – 16 stand or fall together, as discussed in the following argument section.

ARGUMENT

OUTLINE

- I. Summary of the brief on appeal.
- II. Summary of the requirements for a claim containing statutory subject matter under 35 U.S.C. § 101.
- III. Summary of the requirements for a claim meeting 35 U.S.C. § 112, second paragraph.
- IV. Claims 1 – 8 rejection under 35 U.S.C. § 101.
- V. Claim 9 rejection under 35 U.S.C. § 101.
- VI. Claims 1 – 15 rejection under 35 U.S.C. § 112, second paragraph.

I. Summary of the brief on appeal

- A. The 35 U.S.C. § 101 rejection of claims 1 – 8 is improper for the following reasons: (1) the claims are not for an abstract idea, law of nature or natural phenomenon, (2) the claims are a practical application or use of an idea, (3) the claims fall under the safe harbor for “Computer-Related Processes Limited to a Practical Application in the Technological Arts”.
- B. The 35 U.S.C. § 101 rejection of claim 9 is improper for the following reasons: (1) the claim is not for an abstract idea, law of nature or natural phenomenon, (2) the claim is for a machine made by man.
- C. The 35 U.S.C. § 112, second paragraph rejection of claims 1 – 15 is improper for the following reasons: (1) the examiner has not met his burden of proof by establishing that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims, (2) one of ordinary skill in the pertinent art, when

reading the claims in light of the supporting specification, would have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims.

II. Summary of the requirements for 35 U.S.C. § 101 statutory subject matter.

As the Supreme Court has held, Congress chose the expansive language of 35 U.S.C. 101 so as to include "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980). Accordingly, section 101 of title 35, United States Code, provides:

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

MPEP 2106.IV.A

The subject matter courts have found to be outside the four statutory categories of invention is limited to abstract ideas, laws of nature and natural phenomena. While this is easily stated, determining whether an applicant is seeking to patent an abstract idea, a law of nature or a natural phenomenon has proven to be challenging. These three exclusions recognize that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. See, e.g., *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874) ("idea of itself is not patentable, but a new device by which it may be made practically useful is"); *Mackay Radio & Telegraph Co. v. Radio Corp. of America*, 306 U.S. 86, 94, 40 USPQ 199, 202 (1939) ("While a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."); *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759 ("steps of 'locating' a medial axis, and 'creating' a bubble hierarchy . . . describe nothing more than the manipulation of basic mathematical constructs, the paradigmatic 'abstract idea' ").

MPEP 2106 IV A 1(a).

“When a computer program is claimed as part of an otherwise statutory manufacture or machine, the claim remains statutory irrespective of the fact that a computer program is included in the claim... Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material *per se* and hence non-statutory.”

2106 IV B 2 b (Safe Harbors)

Computer-Related Processes Limited to a Practical Application in the Technological Arts

There is always some form of physical transformation within a computer because a computer acts on signals and transforms them during its operation and changes the state of its components during the execution of a process. Even though such a physical transformation occurs within a computer, such activity is not determinative of whether the process is statutory because such transformation alone does not distinguish a statutory computer process from a nonstatutory computer process. What is determinative is not how the computer performs the process, but what the computer does to achieve a practical application. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036.

A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is nonstatutory despite the fact that it might inherently have some usefulness. In *Sarkar*, 588 F.2d at 1335, 200 USPQ at 139, the court explained why this approach must be followed:

No mathematical equation can be used, as a practical matter, without establishing and substituting values for the variables expressed therein. Substitution of values dictated by the formula has thus been viewed as a form of mathematical step. If the steps of gathering and substituting values were alone sufficient, every mathematical equation, formula, or algorithm having any practical use would be *per se* subject to patenting as a "process" under 101. Consideration of whether the substitution of specific values is enough to convert the disembodied

ideas present in the formula into an embodiment of those ideas, or into an application of the formula, is foreclosed by the current state of the law.

For such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 USPQ at 10). See also *Alappat* 33 F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Likewise, a machine claim is statutory when the machine, as claimed, produces a concrete, tangible and useful result (as in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601) and/or when a specific machine is being claimed (as in *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 (in banc)). For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory.

III. Summary of the requirements for 35 U.S.C. § 112, second paragraph.

"In rejecting a claim under the second paragraph of 35 USC 112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims." *Ex parte Wu*, 10 USPQ 2d 2031, 2033 (B.P.A.I. 1989).

"This first inquiry therefore is merely to determine whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and particularity. It is here where the definiteness of the language employed must be analyzed-not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it

would be interpreted by one possessing the ordinary level of skill in the pertinent art.” In re Moore, 439 F.2d 1232, 169 USPQ 236, 238 (C.C.P.A. 1971).

MPEP 2106 .V .A .2

Office personnel shall determine whether the claims set out and circumscribe the invention with a reasonable degree of precision and particularity. In this regard, the definiteness of the language must be analyzed, not in a vacuum, but always in light of the teachings of the disclosure as it would be interpreted by one of ordinary skill in the art. Applicant's claims, interpreted in light of the disclosure, must reasonably apprise a person of ordinary skill in the art of the invention.

However, the applicant need not explicitly recite in the claims every feature of the invention. For example, if an applicant indicates that the invention is a particular computer, the claims do not have to recite every element or feature of the computer. In fact, it is preferable for claims to be drafted in a form that emphasizes what the applicant has invented (i.e., what is new rather than old). *In re Dossel*, 115 F.3d 942, 946, 42 USPQ2d 1881, 1884 (Fed. Cir. 1997).

IV. Claims 1 – 8 rejection under 35 U.S.C. § 101.

Claims 1- 8 have been finally rejected under 35 U.S.C § 101 as being directed to non-statutory subject matter. Claim 1 is not directed towards an abstract idea, a law of nature or a natural phenomenon. Claim 1 requires receiving and processing network information and third party information to determine the usage charges for equipment and services for a customer. The billing system calculates a single invoice with the consolidated charges from the network and the third party. An image of the single invoice is generated and used to produce a copy of the invoice in the media format selected by the customer (See page 9. lines 20 – 25). Generating an invoice is not an abstract idea, a law of nature, or a natural phenomenon. Therefore claim 1 is directed to statutory subject matter.

Claim 1 is a method of billing where the steps of the method occur “in a billing system for a communication network”. A communication network is well known in the arts and typically comprises computers, software, switches, optical links, wire and wireless links, and handheld

devices. A well known communication network is the telephone network. Billing systems for communication networks are also well known in the arts. A typical billing system for a communication network is described in US patents 5,793,553 and 6,052,447. In addition another document that describes a billing system was filed in an IDS to the parent for the current application. The document filed in the IDS was entitled "U.S. Sprint Technical Report, produced by Technical Communications & References, US Sprint Communications Company Limited Partnership (June 1990)". The billing system of claim 1 is a practical application of an idea, implemented in a billing system for a communication network. A communications network is a statutory machine. A billing system in a communication network is also a statutory machine. Therefore the method of claim 1, when performed in the billing system for the communication network, is also directed towards statutory subject matter.

Claim 1 falls under the safe harbor for "Computer-Related Processes Limited to a Practical Application in the Technological Arts". A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Here, claim 1 generates a single invoice that includes the network charges and third party charges. Having a single invoice that includes the charges from the network and a third party provider, instead of having two different invoices, is a useful feature for a customer of the communication network. The single invoice that is generated is concrete and tangible. An image of the single invoice is generated and used to produce a copy of the invoice in the media format selected by the customer (See page 9. lines 20 – 25). Therefore claim 1 falls under the safe harbor and is directed to statutory subject matter.

Claims 2 - 8 are dependent directly or indirectly on claim 1. Therefore claims 2 - 8 are also directed towards statutory subject matter.

V. Claim 9 rejection under 35 U.S.C. § 101.

Claim 9 has been finally rejected under 35 U.S.C § 101 as being directed to non-statutory subject matter. Claim 9 is a billing system in a communications network.

Communication networks are well known in the arts and typically comprise computers, software, switches, optical links, wire and wireless links, and handheld devices. A well known communication network is the telephone network. Billing systems for communication networks are also well known in the arts. A typical billing system for a communication network is described in US patents 5,793,553 and 6,052,447. Claim 9 includes a call processing system and an invoice system. Call processing systems are well known in the arts and typically comprise computers, software, switches, optical, wire, or wireless links, memory systems, and mass storage. Claim 9 is clearly a statutory machine.

VI. Claims 1 – 15 rejection under 35 U.S.C. § 112, second paragraph.

Claims 1 – 15 has been finally rejected under 35 U.S.C 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as their invention. “In rejecting a claim under the second paragraph of 35 USC 112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims.” *Ex parte Wu*, 10 USPQ 2d 2031, 2033 (B.P.A.I. 1989). The examiner has not established that one of ordinary skill in the art would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims. The examiner has stated that he can not determine if a billing system is a method or an apparatus. One of ordinary skill in the pertinent art is familiar with the prior art in the area of technology referenced by the claims. A typical billing system for a communication network is described in US patents 5,793,553 and 6,052,447. The examiner has not established why a person of ordinary skill in the art, and aware of the patents cited above, could not determine that the infrastructure of the billing system is a system of well known components comprising computers, memory, mass storage, and software. Therefore the examiner’s rejection is improper.

One of ordinary skill in the pertinent art would be able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims.

“... the definiteness of the language employed must be analyzed-not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art.” *In re Moore*, 439 F.2d 1232, 169 USPQ 236, 238 (C.C.P.A. 1971). Here, the prior art contains many well known and well documented billing systems for communication networks. Claim 1 uses a new method of billing, operating inside one of the well known billing systems of a communication network. One of ordinary skill in the arts would understand the method of billing of claim 1 and the billing system of claim 9, and would understand and be able to appreciate with a reasonable degree of precision and particularity the particular area set out and circumscribed by the new method and apparatus for operating the billing system. “...the applicant need not explicitly recite in the claims every feature of the invention. For example, if an applicant indicates that the invention is a particular computer, the claims do not have to recite every element or feature of the computer. In fact, it is preferable for claims to be drafted in a form that emphasizes what the applicant has invented (i.e., what is new rather than old). *In re Dossel*, 115 F.3d 942, 946, 42 USPQ2d 1881, 1884 (Fed. Cir. 1997). Here, the applicant has not listed every component that makes up the infrastructure of a billing system, but has drafted the claims in a form that emphasizes the new method of operating the billing system. Therefore the rejection of claims 1 – 15 should be withdrawn.

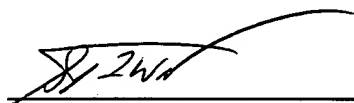
Conclusion

In view of the above, applicant respectfully request that the examiner's rejection of claims 1 - 16 be reversed.

Respectfully submitted,

Date: _____

6/6/05



SIGNATURE OF PRACTITIONER

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APPENDIX I
CLAIMS CURRENTLY PENDING

1. A method of billing, the method comprising:

in a billing system for a communication network, generating account information related to provisioning a communication service from a third party network for a customer;

receiving network information from the communication network into the billing system;

in the billing system, processing the network information to determine network charges related to usage of the communication network by the customer;

receiving third party information from the third party network into the billing system;

in the billing system, processing the third party information to identify the account information and determine third party charges related to usage of the third party network by the customer;

in the billing system, calculating a single invoice for the customer that includes the network charges and third party charges; and

in the billing system, generating the single invoice.

2. The method of claim 1 wherein the account information is an account record for the communication service.

3. The method of claim 1 wherein the network charge is an equipment charge.

4. The method of claim 1 wherein calculating the single invoice is based on a customer profile and further comprises identifying the customer profile for the customer.

5. The method of claim 1 wherein calculating the single invoice further comprises calculating a discount.

6. The method of claim 1 wherein calculating the single invoice comprises calculating taxes.

7. The method of claim 1 wherein calculating the single invoice comprises verifying the

calculation of the single invoice.

8. The method of claim 1 further comprising:

generating and transmitting an order record to the third party network; and
receiving and processing a response to the order record from the third party network.

9. A billing system for a communication network comprising:

a call processing system connected to the communication network and a third party network and configured to generate account information related to provisioning a communication service from the third party network for a customer, receive network information from the communication network, process the network information to determine network charges related to usage of the communication network by the customer, receive third party information from the third party network, and process the third party information to identify the account information and determine third party charges related to usage of the third party network by the customer; and

an invoice system connected to the call processing system and configured to calculate a single invoice for the customer that includes the network charges and third party charges and generate the single invoice.

10. The billing system of claim 9 wherein the account information is an account record for the communication service.

11. The billing system of claim 9 wherein the network charge is an equipment charge.

12. The billing system of claim 9 wherein the invoice system is configured to calculate the single invoice based on a customer profile and identify the customer profile for the customer.

13. The billing system of claim 9 wherein the invoice system is configured to calculate a discount.

14. The billing system of claim 9 wherein the invoice system is configured to calculate taxes.

15. The billing system of claim 9 wherein the invoice system is configured to verify the calculation of the single invoice.

16. The billing system of claim 9 wherein the call processing system is configured to generate and transmit an order record to the third party network and receive and process a response to the order record from the third party network.